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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/894,356	08/18/1997	TOSHIHIKO ASHIKARI	001560-308	8892

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EXAMINER

IBRAHIM, MEDINA AHMED

ART UNIT	PAPER NUMBER
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1638

DATE MAILED: 11/19/2002

34

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
08/894,356

Applicant(s)
Ashikari et al

Examiner
Medina A. Ibrahim

Art Unit
1638



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Aug 22, 2002
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1035 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-12, 20, 22-41, and 46-67 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1, 9-12, 20, 22-27, 46, 53, and 55-58 is/are allowed.
- 6) ☒ Claim(s) 2, 3, 5-8, 28-41, 47-52, 54, and 59-67 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirements.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other: _____

DETAILED ACTION

Applicants' response to the Office action of 02/22/02 has been entered. Claims 42-45 have been cancelled and claims 54-67 have been added. Therefore, claims 1-3, 5-12, 20, 22-41 and 46-67 are pending and are under examination.

The text of these sections of the Title 35, U.S. Code not included in this action can be found in prior Office actions.

All rejections and objections not stated below have been withdrawn.

Claim Rejections - 35 USC § 112

1. Claim 52, 54 and 59-67 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 52 is indefinite for depending upon cancelled claim 42. The claim is considered to depend upon claim 28, in the interest of compact prosecution.

In claim 54, "which gene" lacks antecedent basis. Dependent claims 59-67 are included in the rejection.

Written Description

Claims 1-3, 5-12, 20, 22-41 and dependent claims 47-52 remain rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The rejection is repeated for the same reasons as set forth in pages

2-3 of the Office action mailed 2/22/02. Applicant's arguments as set forth in pages 10-11 of the response regarding the rejection to claim 1, 9-12, 20, 22-27, 46, 53 and 55-58 have been fully considered but are not persuasive because of the following reasons.

Firstly, the claim encompass a multitude of polynucleotides from a multitude of sources encoding a multitude of anthocyanin acyltransferase. The anthocyanin acyltransferase (AAT) gene is a multigene family. Secondly, Applicant has not defined a core structure common to said multigene family which would allow an skilled artisan to visualize the identity of the species within the genus. Therefore, the disclosure of a few genes from related plant species would not provide adequate written description for the claimed genus, namely, an isolated polynucleotide from any source encoding anthocyanin acyltransferase, absent more. In addition, neither Applicants' specification nor the response states that anthocyanin acyltransferase are found only in the disclosed plant species. The rejection to claims ~~2~~-3, 5-8, 28-41 and 47-52 is maintained because Applicant has not provided evidence that any polynucleotide, other than SEQ ID NO:1-6, that is produced by using SEQ ID NO:22 or a nucleotide sequence encoding SEQ ID NO:21 as a primer or a polynucleotide that hybridizes to said primer under the hybridization conditions recited in claims 5-6 would encode a protein having anthocyanin acyltransferase activity. Claims 2-6 encompass any polynucleotide comprising SEQ ID NO:22 or encoding a protein comprising SEQ ID NO:21. The state of the art teaches that not all polynucleotides or proteins comprising SEQ ID NO:22 or 21, respectively, are anthocyanin acyltransferases. Therefore, polynucleotides that are

produced by using SEQ ID NO:22 or a nucleotide sequence encoding SEQ ID NO:21 as a primer or those that hybridize to said primer under the hybridization conditions recited in the claims and that do not encode an anthocyanin acyltransferase are not described in the specification. In addition, since SEQ ID NO:22 is only 17 nucleotides in length, substantial variations in both structure and function are expected among polynucleotides encompassed by the claims. Claims 7 and 8 remain rejected because the specification does not describe the genus of a polynucleotide encoding a protein with as low as 30% or 69% homologous to the disclosed sequences which has aromatic acyltransferase activity. Claims 28-41 remain rejected because the claims recite a polynucleotide that hybridizes with a nucleotide sequence complementary to one of the disclosed nucleotide sequence. The claims read on polynucleotides that are partially complementary to the disclosed sequences, which their ability to encode a protein with anthocyanin acyltransferase activity is uncertain. Therefore, one skilled in the art would not know that Applicant was in possession of the polynucleotides as broadly claimed. The rejection is maintained.

In addition, the word "complementary" in claims 28-41 has no basis in the specification or in the claims as originally filed. This is a new matter rejection. Applicant is required to cancel the new matter, since it has no basis in the specification or in the claims as originally filed.

Claim Rejections - 35 USC 112

Claims 1-3, 5-12, 20, 22-41 remain rejected under 35 U.S.C. 112, first paragraph, because the specification while being enabling for isolated polynucleotide sequences of SEQ ID NO:1-6 encoding an anthocyanin acyltransferase, transgenic plant or plant parts expressing said sequences and methods of expressing said sequences to alter a pigment in a plant, does not provide enablement for any polynucleotide from any source encoding anthocyanin acyltransferase or polynucleotides that are amplified by using SEQ ID NO:22 or a nucleotide sequence encoding SEQ ID NO:21 as a primer or a polynucleotide that hybridizes to said primer under the hybridization conditions of claims 5-6 encoding an anthocyanin acyltransferase or a protein having at least 30% or 68% homologous to one of the disclosed sequences and that retains the protein activity. The rejection is repeated for the same reasons as set forth in pages 4-7 of the Office action mailed 02/22/02. Applicant's arguments in pages 12-14 of the response have been fully considered but are not found persuasive.

Applicants argue that the specification provided guidance for how to obtain proteins which have aromatic acyl group transfer activity, and the conserved regions of the DNA encoding said proteins can be used as a probe to obtain additional DNA falling within the scope of the claims. These arguments are not persuasive because the specification does not provide guidance with respect to conserved regions responsible for the anthocyanin transferase activity, and the disclosed DNAs are from related plant species. In addition, the claims are not limited to polynucleotides encoding proteins

having aromatic acyl transfer activity, but encompass polynucleotides encoding any anthocyanin acyltransferase activity. In addition, a single primer of 17 nucleotides (claims 2-3) and the hybridization conditions of claims 5-6 are not expected to yield functionally related polynucleotides, not to mention all polynucleotides encoding anthocyanin acyltransferases, a multigene family. The guidance provided in the specification is limited to SEQ ID NO:1-6 and methods of their use to transform plants or plant parts. Therefore, the breadth of the claims is not commensurate in scope with the enabling disclosure. Therefore, given the limited guidance in the specification, the state of the prior art, the breadth of the claims and the unpredictability, as discussed in the last Office action, one skilled in the art would not be able to obtain the polynucleotides as broadly claimed, without undue and excessive experimentations.

In response to Applicants' assertion (last paragraph of page 11 and 2nd full paragraph of page 14) that new claims 54-67 are allowable as they are directed to specific sequences, it is noted that claims 55-58 are not limited to specific sequences. Therefore, the rejection is maintained.

Remarks

Claims 1-3, 5-12, 20, 22-41 and 46-67 are free of the prior art of record.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Papers relating to this application may be submitted to Technology Sector 1 by facsimile transmission. Papers should be faxed to Crystal Mall 1, Art Unit 1638, using fax number (703) 308-4242. All Technology Sector 1 fax machines are available to receive transmissions 24 hrs/day, 7 days/wk. Please note that the faxing of such papers must conform with the Notice published in the Official Gazette, 1096 OG 30, (November 15, 1989).

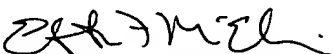
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Medina A. Ibrahim whose telephone number is (703) 306-5822. The Examiner can normally be reached Monday -Thursday from 9:00AM to 6:00PM, and every other Friday from 9:00AM to 5:30PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Amy Nelson, can be reached at (703) 306-3218.

Any inquiry of a general nature or relating to the status of this application should be directed to the receptionist whose telephone number is (703) 308-0196.

November 6, 2002

mai


ELIZABETH F. McELWAIN
PRIMARY EXAMINER
GROUP 1600